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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,257	09/30/2002	Murali Narasimha	U01-0078(19)	5663

54494 7590 12/18/2006

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EXAMINER	
ADDY, ANTHONY S	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 12/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,257	NARASIMHA ET AL.	
	Examiner	Art Unit	
	Anthony S. Addy	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-17,19-32 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-17, 19-32 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/01/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on August 10, 2006.

Claims 1-4, 6-17, 19-32 and 34 are now pending in the present application.

Response to Arguments

2. Applicant's arguments with respect to **claims** 1-4, 6-17, 19-32 and 34 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

3. The references listed in the Information Disclosure Statement filed on August 01, 2006 have been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 16, 23, 30 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, applicant recites the limitation "the same channel" on line 4 of claim 1, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 1, applicant recites the limitation "the other channel" on line 8 of claim 1, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 16, applicant recites the limitation "the same CDMA pilot channel" on line 5 of claim 16, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 16, applicant recites the limitation "the CDMA pilot channel" on line 9 of claim 16, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 23, applicant recites the limitation "the same channel" on line 3 of claim 23, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 30, applicant recites the limitation "the same channel" on line 6 of claim 30, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 30, applicant recites the limitation "the other channel" on line 10 of claim 30, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 36, applicant recites the limitation "the same channel" on line 5 of claim 36, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 36, applicant recites the limitation "the channel" on line 7 of claim 36, however there is insufficient antecedent basis for this limitation in the claim.

With respect to claim 36, applicant recites the limitation "the other channel" on line 13 of claim 36, however there is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 2, 10, 11, 13, 14, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and further in view of **Dent, U.S. Patent Number 6,195,555 (hereinafter Dent).**

Regarding claims 1, 10 and 30, Spear teaches a computer-readable medium having computer-executable instructions for performing a method of selecting a communication system (see abstract and Fig. 3), comprising: receiving a first quality indicator for a single channel from a current communication system (see col. 5, lines 39-41 and Fig. 3; box 216 [i.e. monitoring the RSS of BTS D by mobile handset 150 reads on the limitation "receiving a first quality indicator for a single channel from a current communication system"]); remaining in communication with the current system (see col. 5, lines 48-52 [i.e. mobile handset 150 remains in communication with the serving BTS D]); receiving a second quality indicator for the same channel after a predetermined time period in response to the first quality indicator being below a predetermined

threshold value (see col. 5, lines 37-57 and Fig. 3 [i.e. The feature of the second quality indicator is met by going through the loop when the monitored RSS of BTS D does not exceed RSS D (i.e. the predetermined threshold value at box 220), and the measurement process continues periodically at box 216 to monitor the RSS of BTS D a second time]); and acquiring another channel from a channel scan list in response to the other channel having an associated quality indicator greater than or equal to the predetermined threshold value (see col. 5, lines 15-37 and lines 52-65 and Fig. 3; box 220, 222 & 224).

Spear fails to explicitly teach scanning any channels in the channel scan list in response to the second quality indicator being below the predetermined threshold value.

In an analogous field of endeavor, Dent teaches a method and system of a mobile telephone monitoring and acquiring another communication channel if the mobile detects that a currently monitored base station signal quality falls below a predetermined threshold (see col. 10, lines 30-34 and Fig. 4; blocks 400-404). According to Dent, if the mobile detects that a currently monitored base station signal quality falls below a predetermined threshold, the mobile scans a list of alternative calling channel frequencies and switches to one of the alternative channels if it has a signal quality above the predetermined threshold (see col. 10, lines 32-37 and Fig. 4; blocks 404-406).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of monitoring and acquiring another communication channel from a list of alternative calling channel frequencies if a mobile

detects that a currently monitored base station signal quality falls below a predetermined threshold of Dent to the method of Spear, in order to scan a list of alternative calling channel frequencies without waiting for the signal quality of a current communication system to degrade or prevent a loss of a communication signal from the current communication system as taught by Dent (see col. 10, lines 12-17 and col. 10, lines 30-42).

Regarding claims 2 and 31, Spear in view of Dent teaches all the limitations of claims 1 and 30. Spear in view of Dent fails to explicitly teach the first and second quality indicators each comprise an E_c/I_o of a code division multiple access (CDMA) pilot channel. However the use of a quality indicator such as an E_c/I_o of a code division multiple access (CDMA) pilot channel to monitor the quality of a communication channel is very well known in the art. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent, wherein the first and second quality indicators each comprise an E_c/I_o of a code division multiple access (CDMA) pilot channel, in order to monitor a quality parameter such as an interference level of a current communication channel.

Regarding claim 11, Spear in view of Dent teaches all the limitations of claim 1. Dent further teaches a method, further comprising building the channel scan list, wherein the channel scan list includes channels on alternate systems (see col. 10, lines 30-42).

Regarding claim 13, Spear in view of Dent teaches all the limitations of claim 1. Dent further teaches a method, wherein scanning any channels in the channel scan list

comprises performing a microscan of any channels on a grey zone channel list (see col. 10, lines 12-42).

Regarding claim 14, Spear in view of Dent teaches all the limitations of claim 1. Dent further teaches a method, wherein performing a microscan comprises: receiving a received signal strength indication (RSSI) for a channel in the grey zone channel list; and comparing the RSSI to one of a threshold value or a previously received RSSI for the channel (see col. 10, lines 12-42).

8. Claims 16, 23, 24, 25, 27 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and **Dent, U.S. Patent Number 6,195,555 (hereinafter Dent)** and further in view of **Sawyer et al., U.S. Patent Number 5,915,221 (hereinafter Sawyer).**

Regarding claims 16, 23, 24, 25 and 36, Spear teaches a communication device (i.e. mobile handset 150) and a method of selecting a communication system (see col. 4, lines 57-65 and Figs. 2 & 3), comprising: receiving a first quality indicator for a single channel from a current communication system (see col. 5, lines 39-41 and Fig. 3; box 216 [i.e. monitoring the RSS of BTS D by mobile handset 150 reads on the limitation "receiving a first quality indicator for a single channel from a current communication system"]); remaining in communication with the current system (see col. 5, lines 48-52 [i.e. mobile handset 150 remains in communication with the serving BTS D]); receiving a second quality indicator for the same channel after a predetermined time period in response to the first quality indicator being below a predetermined threshold value (see

col. 5, lines 37-57 and Fig. 3 [i.e. The feature of the second quality indicator is met by going through the loop when the monitored RSS of BTS D does not exceed RSS D (i.e. the predetermined threshold value at box 220), and the measurement process continues periodically at box 216 to monitor the RSS of BTS D a second time]); and acquiring another channel from a channel scan list in response to the other channel having an associated quality indicator greater than or equal to the predetermined threshold value (see col. 5, lines 15-37 and lines 52-65 and Fig. 3; box 220, 222 & 224).

Spear fails to explicitly teach scanning any channels in the channel scan list in response to the second quality indicator being below the predetermined threshold value.

In an analogous field of endeavor, Dent teaches a method and system of a mobile telephone monitoring and acquiring another communication channel if the mobile detects that a currently monitored base station signal quality falls below a predetermined threshold (see col. 10, lines 30-34 and Fig. 4; blocks 400-404). According to Dent, if the mobile detects that a currently monitored base station signal quality falls below a predetermined threshold, the mobile scans a list of alternative calling channel frequencies and switches to one of the alternative channels if it has a signal quality above the predetermined threshold (see col. 10, lines 32-37 and Fig. 4; blocks 404-406).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of monitoring and acquiring another communication channel from a list of alternative calling channel frequencies if a mobile detects that a currently monitored base station signal quality falls below a

predetermined threshold of Dent to the method of Spear, in order to scan a list of alternative calling channel frequencies without waiting for the signal quality of a current communication system to degrade or prevent a loss of a communication signal from the current communication system as taught by Dent (see col. 10, lines 12-17 and col. 10, lines 30-42).

Spear in view of Dent fails to explicitly teach the first and second quality indicators each comprise an E_c/I_o of a code division multiple access (CDMA) pilot channel. However the use of a quality indicator such as an E_c/I_o of a code division multiple access (CDMA) pilot channel to monitor the quality of a communication channel is very well known in the art. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent, wherein the first and second quality indicators each comprise an E_c/I_o of a code division multiple access (CDMA) pilot channel, in order to monitor a quality parameter such as an interference level of a current communication channel.

The combination of Spear and Dent fails to explicitly teach adding the channel to a grey zone channel list in response to the second quality indicator signal being below a predetermined value, wherein the grey zone channel list includes any channels having a reverse link from a mobile communication device to a base station being degraded by interference from other communication devices.

In an analogous field of endeavor, Sawyer teaches a method and system for creating a neighbor cell list, wherein an average interference level is measured and averaged for each channel and an ordered channel list of the most interference

channels for which measurement results were received are determined and added to a neighbor cell list (see col. 11, lines 30-65, col. 12, lines 41-59 and Fig. 5 [i.e. a list of the most interference channels created and shown in Fig. 5 reads on a grey zone channel list]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent with the teachings of Sawyer to include a method of adding the channel to a grey zone channel list in response to the second quality indicator signal being below a predetermined value, wherein the grey zone channel list includes any channels having a reverse link from a mobile communication device to a base station being degraded by interference from other communication devices, in order to create a neighbor cell list that would contain the best possible candidate cells for handing off a call and to prevent handing off a call to a candidate cell with a high interference channel as taught by Sawyer (see col. 3, lines 53-60 and col. 4, lines 9-34).

Regarding claim 27, the combination of Spear, Dent and Sawyer teaches all the limitations of claims 23. Spear further teaches the channel scan list comprises a preferred roaming list (see col. 5, lines 13-35).

Regarding claims 35 and 39, the combination of Spear, Dent and Sawyer teaches all the limitations of claims 1 and 36. Spear further teaches a method, further comprising preventing hopping between different channels by confirming that the first quality indicator remains below the predetermined threshold for the predetermined time

period by receiving the second quality indicator from the same channel (see col. 5, lines 37-57).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and **Dent, U.S. Patent Number 6,195,555 (hereinafter Dent)** as applied to claim 1 above, and further in view of **Labun et al., U.S. Patent Number 6,842,621 (hereinafter Labun)**.

Regarding claim 7, Spear in view of Dent teaches all the limitations of claim 1. Spear in view of Dent teaches a method, further comprising: receiving a first quality indicator for a channel (see *Spear*, col. 5, lines 39-41 and Fig. 3; box 216 [i.e. monitoring the RSS of BTS D by mobile handset 150 reads on the limitation "receiving a first quality indicator for a channel"]); receiving a second quality indicator for the channel after a predetermined time period in response to the first quality indicator being below a predetermined threshold value (see *Spear*, col. 5, lines 37-57 and Fig. 3 [i.e. The feature of the second quality indicator is met by going through the loop when the monitored RSS of BTS D does not exceed RSS D (i.e. the predetermined threshold value at box 220), and the measurement process continues periodically at box 216 to monitor the RSS of BTS D a second time]); scanning any channels in the channel scan list in response to the second quality indicator being below the predetermined threshold value (see *Dent,* col. 10, lines 30-37 and Fig. 4; blocks 400-406).

The combination of Spear and Dent fails to explicitly teach a method, further comprising: starting a hysteresis timer in response to a quality indicator being below the

predetermined threshold value; and receiving another quality indicator after the hysteresis timer expires.

Labun, however, teaches a timing diagram of message flows between a mobile station and a radio network control during handover, wherein radio network control sets a timer when the RSSI of the mobile station drops below the access point threshold value (see col. 9, lines 15-25). According to Labun, the timer serves as a hysteresis timer to prevent a ping-pong handover effect that could occur if the mobile station moves into an edge of a proximity or coverage area of an access point (see col. 9, lines 25-28 and Fig. 5; steps 510 & 512). Labun further teaches the radio network control sends a disconnect command to the first access point if the hysteresis timer times out and monitors the RSSI from the mobile station at a second access point (see col. 9, lines 28-45 and Fig. 5; steps 510, 512 and 534 [i.e. the mobile station receives another quality indicator (RSSI) from access point (AP2) when the hysteresis timer time out]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent with Labun, to include a method further comprising: starting a hysteresis timer in response to a quality indicator being below the predetermined threshold value and receiving another quality indicator after the hysteresis timer expires, in order to prevent a ping-pong handover effect that could occur if the mobile station moves into an edge of a proximity or coverage area of an access point as taught by Labun (see col. 9, lines 25-28).

10. Claims 8, 9, 17, 22, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and **Dent, U.S. Patent Number 6,195,555 (hereinafter Dent)** and **Sawyer et al., U.S. Patent Number 5,915,221 (hereinafter Sawyer)** as applied to claims 1, 16 and 23 above, and further in view of **Douthitt et al., U.S. Patent Number 5,524,280 (hereinafter Douthitt)**.

Regarding claims 8, 9, 17, 22, 28 and 29, the combination of Spear, Dent and Sawyer teaches all the limitations of claims 1, 16 and 23. The combination of Spear, Dent and Sawyer teaches a communication device and method, further comprising: scanning any channels in the channel scan list in response to the second quality indicator of the channel being below the predetermined threshold for the predetermined period of time (see *Dent,* col. 10, lines 30-37 and Fig. 4; blocks 400-406).

The combination of Spear, Dent and Sawyer fails to explicitly teach starting an initial scan timer before scanning any channels in the channel scan list; and performing an initial acquisition scan in response to the initial scan timer expiring.

However the use of an initial scan timer for scanning a channel list to acquire a channel is very well known in the art as taught for example by Douthitt. Douthitt teaches a method of acquiring at a subscriber unit, a channel on which to provide data service in a general frequency reuse system, wherein an intermediate scan timer is started before scanning any channels in the channel scan list; and performing an initial acquisition scan in response to the initial scan timer expiring (see col. 7, line 61 through col. 8, line 34).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear, Dent and Sawyer with Douthitt, to include an initial scan timer for the acquisition of a channel when a mobile station progresses through different coverage areas in a communication system to minimize channel acquisition latency as taught by Douthitt (see col. 10, lines 50-65).

11. Claims 3, 4, 6, 12, 19-21, 32, 34, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and **Dent, U.S. Patent Number 6,195,555 (hereinafter Dent)** and further in view of **Sawyer et al., U.S. Patent Number 5,915,221 (hereinafter Sawyer)** as applied to claims 1, 16, 23, 30 and 36 above.

Regarding claims 6, 12, 19-20 and 34, the combination of Spear, Dent and Sawyer teaches all the limitations of claims 1, 16, 23 and 30. The combination of Spear and Dent fails to explicitly teach a method, further comprising adding the channel to a grey zone channel list in a mobile communication device in response to the second quality indicator signal being below the predetermined threshold value to avoid a grey zone condition, wherein the grey zone condition includes a degradation in a reverse link from the mobile communications device to a base station of the communication system or removing a channel from a grey zone channel list after the channel has been in the grey zone channel list for a predetermined period of time.

In an analogous field of endeavor, Sawyer teaches a method and system for creating a neighbor cell list, wherein an average interference level is measured and

averaged for each channel and an ordered channel list of the most interference channels for which measurement results were received are determined and added to a neighbor cell list (see col. 11, lines 30-65, col. 12, lines 41-59 and Fig. 5 [i.e. a list of the most interference channels created and shown in Fig. 5 reads on a grey zone channel list]). Sawyer further teaches removing a channel from the neighbor cell list after the channel has been in the neighbor cell list for a predetermined period of time (see col. 11, lines 59-67 and col. 12, lines 49-59).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent with the teachings of Sawyer to include a method of adding and removing a channel from a grey zone channel list in response to the second quality indicator signal being below a predetermined value, wherein the grey zone channel list includes any channels having a reverse link from a mobile communication device to a base station being degraded by interference from other communication devices, in order to create a neighbor cell list that would contain the best possible candidate cells for handing off a call and to prevent handing off a call to a candidate cell with a high interference channel as taught by Sawyer (see col. 3, lines 53-60 and col. 4, lines 9-34).

Regarding claims 3, 4, 21, 32, 37 and 38, the combination of Spear, Dent and Sawyer teaches all the limitations of claims 1, 16, 30 and 36. The combination of Spear and Dent fails to explicitly teach a method, wherein scanning any channels in the channel scan list comprises skipping any channels on a grey zone channel list to avoid

a failure of a page response or access attempt on a reverse link from a mobile communication device to a base station.

In an analogous field of endeavor, Sawyer teaches a method and system for creating a neighbor cell list, wherein an average interference level is measured and averaged for each channel and an ordered channel list of the most interference channels for which measurement results were received are determined and added to a neighbor cell list (see col. 11, lines 30-65, col. 12, lines 41-59 and Fig. 5 [i.e. a list of the most interference channels created and shown in Fig. 5 reads on a grey zone channel list]). One of ordinary skill in the art further recognizes that it is very well known in the art to skip a bad unusable channel such as a channel with a significant amount of interference as taught by Sawyer in order to maintain a high quality of communication.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spear and Dent with the teachings of Sawyer to include a method, wherein scanning any channels in the channel scan list comprises skipping any channels on a grey zone channel list to avoid a failure of a page response or access attempt on a reverse link from a mobile communication device to a base station, in order to maintain a high quality of communication by using a least interfered channel and skipping over a bad unusable channel such as a most interfered channel as taught by Sawyer.

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Spear, U.S. Patent Number 6,289,220 (hereinafter Spear)** and **Dent, U.S. Patent Number**

6,195,555 (hereinafter Dent) as applied to claim 1 above, and further in view of **Shah, U.S. Patent Number 6,047,071 (hereinafter Shah).**

Regarding claim 15, Spear in view of Dent teaches all the limitations of claim 1. The combination of Spear and Dent fails to explicitly teach a method, further comprising programming the predetermined threshold value over-the-air.

However the programming of mobile phone parameters over-the-air, such as a predetermined threshold value is very well known in the art as taught for example by Shah. Shah teaches a method for maintaining, changing, and/or updating of mobile phone parameters by a network service provider over-the-air, without requiring intervention by the mobile phone user (see abstract, col. 1, lines 5-10 and col. 2, lines 19-67).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Shah, to the method of Spear and Dent, to include a method, further comprising programming the predetermined threshold value over-the-air in order to allow a network service provider to initiate over-the-air access to a mobile station's Number Assignment Module (NAM) without requiring user intervention, and allowing for actions to be taken to protect the service provider's resources as well as to improve service to its subscribers as taught by Shah (see col. 7, lines 56-62).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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